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May 11, 2009

Ms. Annette Bendish
Staff Attorney
North Dakota Public Utilities Commission
600 East Boulevard Avenue, Department 408
Bismarck, ND 58505

RE: M-Power LLC's Luverne Wind Farm Project
Case No.: PU-08-34

Dear Ms. Bendish:

This letter is sent in response to your April 29, 2009 communication requesting information as to the noise levels the XLE turbines will produce, at 1,400 feet or the nearest occupied residence, as compared to the SLE turbines described in the Luverne Wind Farm Application and subsequent submittals.

Otter Tail commissioned a review and modeling of this information and has concluded that the XLE turbines will emit the same noise levels as the proposed SLE turbines; there is no difference between the two different models.

I have attached a copy of a memo Otter Tail received from Kadrmas Lee & Jackson, Inc. reflecting this information.

Should you or the Commission require any further information, please contact me.

Sincerely,

Jennifer O. Smestad
Associate General Counsel
JOS:nlo

Enclosure

cc: Lawrence Bender
Randy Synstelien

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

MEMO

Date: May 8, 2009

To: Randy Synstelien
Ottertail Power Company

Copy To:

From: Kadrmas, Lee & Jackson, Inc

Re: G.E. 1.5xle wind turbine noise emissions

The G.E. 1.5xle wind turbine noise emissions were carried out in accordance with the Regulation of International Standard IEC61400-11:2002, and summarized in G.E. Technical Documentation "Noise Emissions Characteristics: G.E. 1.5xle".

The G.E. 1.5xle has a rotor diameter of 82.5 meters versus 77 meters of the G.E. 1.5sle. At a hub height of 80 meters and a wind speed of 7 meters/second or greater the sound power levels (Lwa) measured at the hub center are ± 104 dB.

It remains important to understand the relationship of sound power levels measured at the source and the result of that propagation over distance. Sound is measured in decibels (dB) which is a logarithmic scale used because it best characterizes the human response to sound levels. The logarithmic scale of decibels does not add numerically in a linear method. For example, two wind turbines producing a point source noise level of 110 dB each would result in a noise level of only 113. But likewise, sound waves transmitting away from this source in a spherical pattern spread out to increasingly larger areas and decrease their intensity (inverse square law of sound). Thus doubling of distance from the sound source would decrease the intensity of 6 dB. In other words at 200 meters the sound level will be one-forth that of 100 meters.

The G.E. 1.5xle has a sound level of ± 104 dB at the hub height of 80 meters and within the distance of 150 meters these levels will have dropped to ± 50 dB. At a distance of 425 meters the level will have dropped below ± 40 dB. This is consistent with noise levels for rural settings.

In addition, the ability to hear a wind turbine depends on the ambient sound level. Ambient sound levels in rural areas are generated when the wind increases in speed and interacts with trees, crops, and other vegetation. At this point the low frequency noise of the wind turbine is lost in the background. When the wind is low the turbines turn slowly, or not at all, and insignificant noise levels are produced. The following charts illustrate sound level distances and distribution.

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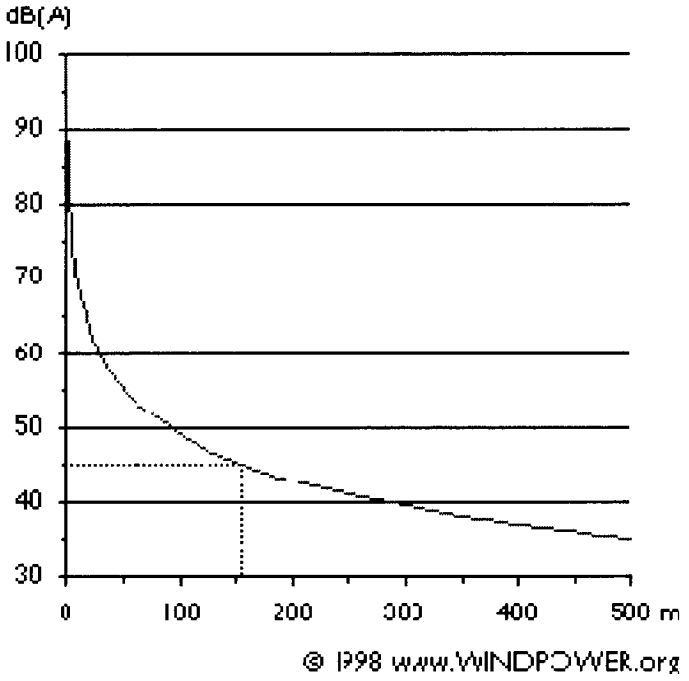

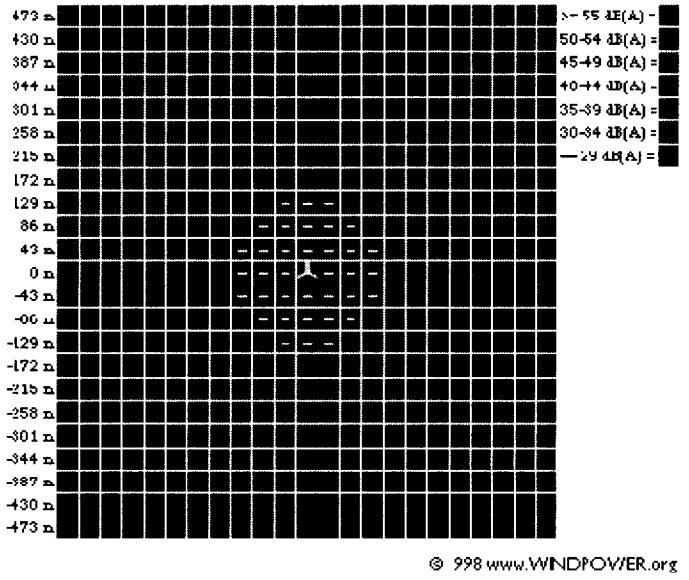

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

Sources:

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GE Energy. Technical Documentation Wind Turbine Generator System GE 1.5xle 50 & 60 Hz: Noise Emission Characteristics. GE Energy: 2007.

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